

Space Science Curricula

The International Education Magnet Program is designed to help students get a global perspective, develop skills needed to function in the international marketplace, and learn to communicate with people of other cultures. The high school curricula generally include studies of international business (world trade, producers and consumers, the roles of governments, the problems and benefits of foreign investment) and social science (world food and health problems, world conflicts, cultures, religions, political systems). Additionally, language courses are offered in Japanese and Russian along with the traditional high school courses in French, German, Spanish and Latin.

Johnson High School, Huntsville, Alabama started an international magnet program in 1987. Among the courses in the curriculum was one in space science. But school principal Evalyn Humphrey and science teacher Jayne Russell couldn't find a suitable textbook, nor could they locate other classes in space science to provide a guideline. They appealed to Marshall Space Flight Center (MSFC), also located in Huntsville.

MSFC agreed to help and placed Johnson High under an official "Adopt-A-School" program. MSFC's chief scientist and others at the space center helped prepare a very comprehensive space science program that includes such subjects as problems of space travel, materials processing in space, technology utilization, zero gravity experimentation, aerospace dynamics, propulsion and rocket systems, weather prediction, astronaut selection and training, the solar system, lasers, optics, robotics, space colonization, aviation and space history and a study of major NASA projects, current and historical.

MSFC followed up by working with Johnson High to determine if the curriculum is generally usable and workable; if so, MSFC may make it available to other schools interested in starting space science courses.

MSFC's support of Johnson High School goes well beyond the classroom outline. Students are able to take annual field trips to see a Space Shuttle launch and they are also provided oppor-

tunities to witness Shuttle engine test firings at MSFC, visit laboratories and tour other MSFC facilities.

Under a Senior Work Study Program, senior astronomy students are able to experience the environment and day-to-day activities of a person involved in the space program by "shadowing" a Marshall scientist or engineer for periods up to three days.

In addition, MSFC employees volunteer their time and expertise to the space science classes. For example, they offer technological assistance to students in building sounding rocket experiments. They also serve as technology advisors and chaperones on field trips. Upper level students themselves become instructors under Project STAR (Student Training in Aeronautics and Rocketry); they go to elementary schools and help younger students build and launch rocket models.

Photo by Brian Triolo, Johnson High School



Against the backdrop of a Moon-view of Earth, a space science class at Johnson High School, Huntsville, Alabama prepares rockets for demonstration launches. In center background is space science teacher Jayne Russell. Marshall Space Flight Center developed the space science curriculum and supports the program by sponsoring hands-on activities and tours of space research facilities.